Use of Flood Control Diagram

1. Parameters are computed daily from the weighted accumulation of seasonal basin mean precipitation by multiplying the preceding day's parameter by 0.97 and adding the current day's precipitation in inches.

2. Except when releases are governed by the emergency spillway release diagram currently in force (File No. 4-13-586), water stored in the flood control reservation, defined hereon, shall be released as rapidly as possible, subject to the following conditions:

   a. That releases are made according to the release schedule hereon.

   b. That flows in Feather River above Yuba River do not exceed 180,000 c.f.s.

   c. That flows in Feather River below Yuba River do not exceed 300,000 c.f.s.

   d. That flows in Feather River below Bear River do not exceed 320,000 c.f.s. insofar as possible.

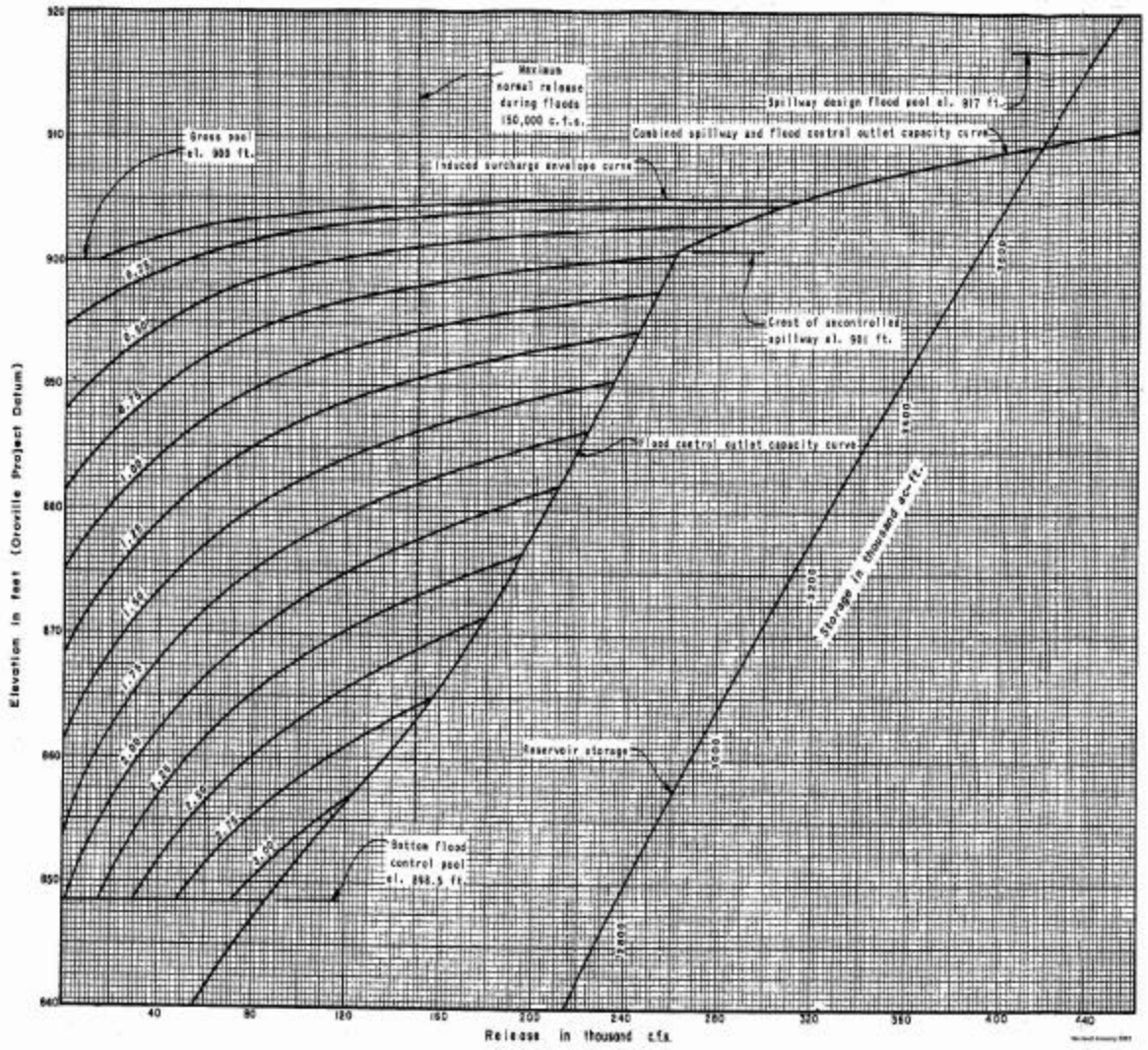
   e. That releases are not increased more than 10,000 c.f.s. or decreased more than 5,000 c.f.s. in any 2 hour period.

RELEASE SCHEDULE

ACTUAL OR FORECAST INFLOW (WHICHEVER IS GREATER)	FLOOD CONTROL SPACE USED	REQUIRED RELEASES
c.f.s.	ac-ft	c.f.s.
0 - 15,000	0 - 5,000	Power Demand
0 - 15,000	Greater Than 5,000	Inflow
15,000 - 30,000	0 - 30,000	Lesser of 15,000 or maximum inflow
0 - 30,000	Greater Than 30,000	Maximum inflow for flood
30,000 - 120,000	- - - - - - - -	Lesser of maximum inflow or 60,000 c.f.s.
120,000 - 175,000	- - - - - - - -	Lesser of maximum inflow or 100,000 c.f.s.
Greater Than - 175,000	- - - - - - - -	Lesser of maximum inflow or 150,000 c.f.s.

Effective date: 13 Sept 1971

Oroville Emergency Spillway Release Diagram



OPERATING INSTRUCTIONS

1. Follow regular flood control regulation schedule until larger releases are required by this schedule.
2. Adjust the spillway outflow each hour on the basis of the rate of rise of reservoir elevation in feet for the preceding hour and the current reservoir elevation as indicated by the curves. Maintain the current gate openings if smaller gate openings are called for or the reservoir elevation starts to fall. If the reservoir elevation is still rising, continue this spillway outflow adjustment until the gates are fully open.
3. After the reservoir elevation starts to fall, maintain current gate openings until the flow has been reduced to 150,000 c.f.s.
4. Once operation in accordance with the emergency spillway release diagram is initiated, gate changes shall be made only in accordance with the above criteria.

NOTES:

1. Parameter values are the rate of rise in reservoir elevation in feet during preceding hour.
2. Sill of the flood control outlet is at elevation 813.6 feet. Ungated spillway crest is at elevation 901 feet.
3. Discharge through the flood control outlet is controlled by eight 17.6' x 33.0' gates with an additional 1730 feet of uncontrolled spillway above elevation 901 feet.

OROVILLE DAM AND RESERVOIR
Feather River, California

EMERGENCY SPILLWAY RELEASE DIAGRAM

Prepared Pursuant to Flood Control Regulations for Oroville Dam and Reservoir

APPROVED: *E P Koisch*
Major General, U.S.A., Director of Civil Works

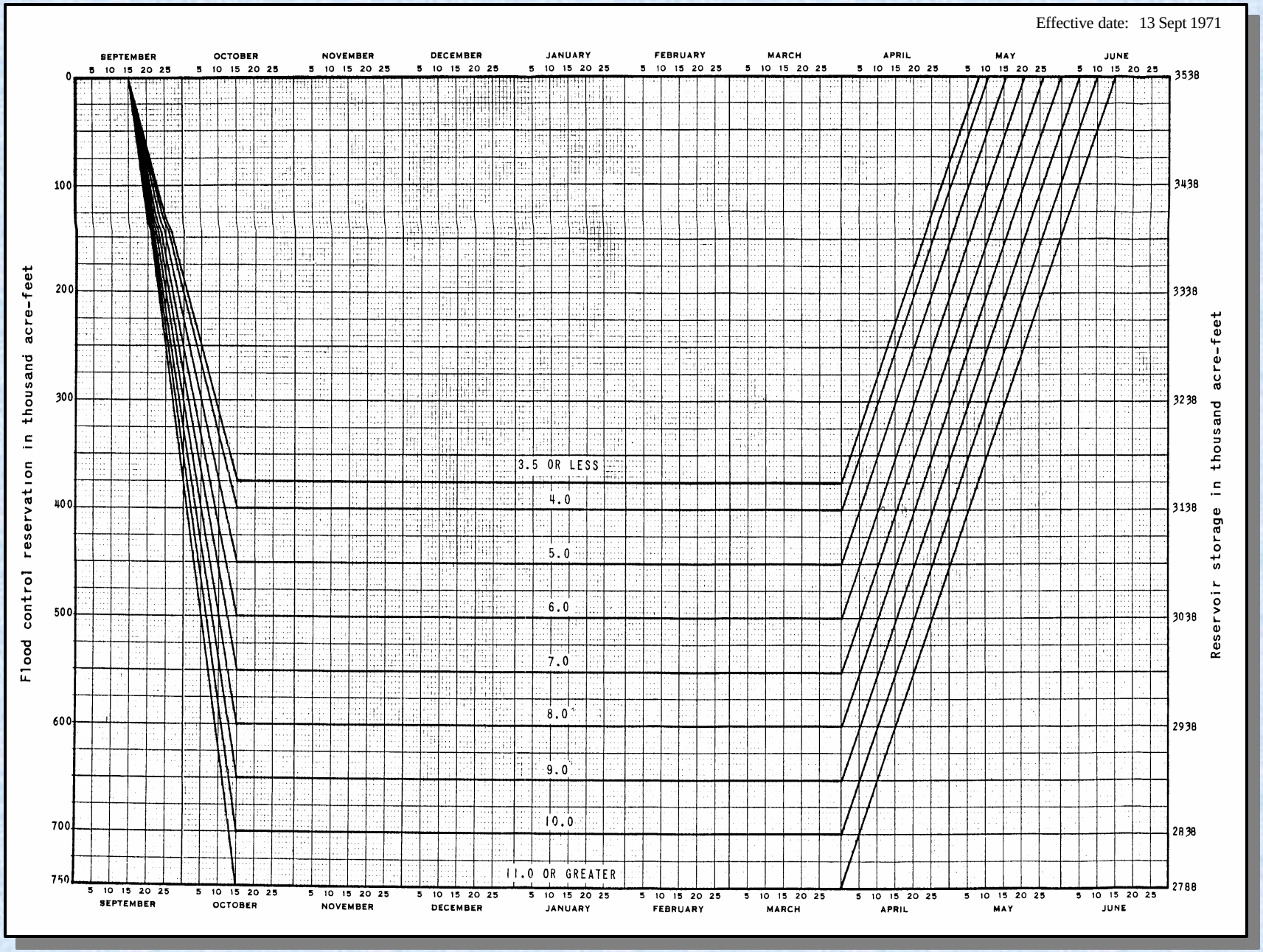
APPROVED: *Wm Gianelli*
Director, Department of Water Resources

Effective Date: 13 Sep 71 File No: 4-13-586

Oroville Water Control Manual

- **Current manual – August 1970**
- **Update of manual will begin shortly**
  - Manual update does not include re-operation evaluations
- **Process involves updating various components of the manual such as:**
  - Figures – frequency curves, historical operations, area-capacity
  - Maps – topography and stream gaging stations, normal annual precipitation
  - Additional text – further clarification of operational rules, recent environmental concerns
- **Reallocation of flood storage involves an Act of Congress**

Oroville Flood Control Diagram



Modifications to a Water Control Plan

❶ **Initial Appraisal Report developed to determine whether or not a study should be performed**

- Conducted by Corps or operating agency
- Federal funding is highly unlikely without congressional input

❷ **District performs studies to develop water control plan(s)**

(*may include assistance from project operating agency*)

- Cost sharing between Corps and operating agency depending on beneficiary

❸ **District develops recommended plan**

❹ **Preparation of environmental documentation**

- NEPA[1]/CEQA[2]/ESA[3] review and approval
- Cost sharing depends on beneficiary

1 NEPA – National Environmental Policy Act
2 CEQA – California Environmental Quality Act
3 ESA – Endangered Species Act

Modifications to a Water Control Plan

❺ **Review & preliminary approval by operating agency** *(State of California)*

❻ **Recommended plan is released for public review and comment**

❼ **Final review by the Corps District Office**

❽ **Review and preliminary approval by Corps Division office**

❽ **Final approval by operating agency**

❾ **Final approval by Corps Division office**

❿ **Published in Federal Register** *(becomes law)*


Questions?